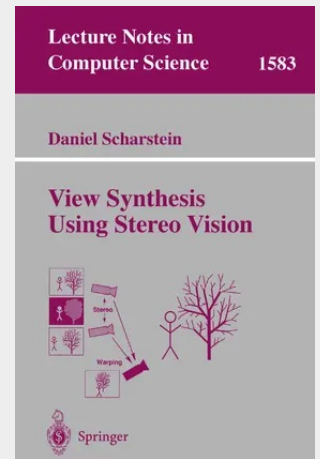


View Synthesis Using Stereo Vision

Image-based rendering, as an area of overlap between computer graphics and computer vision, uses computer vision techniques to aid in synthesizing new views of scenes. Image-based rendering methods are having a substantial impact on the field of computer graphics, and also play an important role in the related field of multimedia systems, for applications such as teleconferencing, remote instruction and surgery, virtual reality and entertainment.

The book develops a novel way of formalizing the view synthesis problem under the full perspective model, yielding a clean, linear warping equation. It shows new techniques for dealing with visibility issues such as partial occlusion and "holes". Furthermore, the author thoroughly re-evaluates the requirements that view synthesis places on stereo algorithms and introduces two novel stereo algorithms specifically tailored to the application of view synthesis.

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53,49 €

49,99 € (zzgl. MwSt.)

Lieferfrist: bis zu 10 Tage

Artikelnummer: 9783540661597

Medium: Buch

ISBN: 978-3-540-66159-7

Verlag: Springer Berlin Heidelberg

Erscheinungstermin: 09.06.1999

Sprache(n): Englisch

Auflage: 1999

Serie: Lecture Notes in Computer Science

Produktform: Kartoniert

Gewicht: 295 g

Seiten: 172

Format (B x H): 155 x 235 mm

